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Volkswagen and NXP Deliver Safety to European Roads with World's Largest Rollout of Communicating Car Technology

Volkswagen Golf launches with NXP's secure vehicle-to-everything (V2X) technology

- NXP and Volkswagen set to deploy V2X communication on the roads of Europe immediately
- V2X tech ready to improve safety it can protect car drivers today and will be able to protect cyclists and pedestrians in the future
- Wi-Fi-p is only safe and secure V2X technology capable of immediate volume rollout

HAMBURG – October 28, 2019 – NXP Semiconductors N.V. (NASDAQ: NXPI), the world's largest provider of automotive semiconductors¹, is pleased to announce the rollout of its life-saving RoadLINK® V2X communication solution in the new Volkswagen Golf. The recently released Golf of the 8th generation is the first volume European car model equipped with V2X, offering a major boost to the deployment of the technology on European roads and beyond. The technology can prevent accidents by having cars communicatee with each other, independent of car brands and without the support of cellular infrastructure.

"Road safety forms the core of VW's commitment to its customers. As a high-volume manufacturer we aim to be a pioneer in this space," said Dr. Johannes Neft, Head of Vehicle Body Development for the Volkswagen brand. "The introduction of V2X, together with traffic infrastructure providers and other vehicle manufacturers, is a major milestone in this direction. Volkswagen includes this technology, which doesn't involve any user fees, as a standard feature to accelerate V2X penetration in Europe."

"Volkswagen has taken a bold step to seize the road safety initiative through the implementation of V2X," said Torsten Lehman, senior vice president and general manager of Driver Assistance and Infotainment at NXP. "After proving our technology in more than one million test days globally, we are pleased that our RoadLINK technology, developed in cooperation with Cohda Wireless, was chosen to enable new levels of safety in Europe's most popular car model, the new Golf."

NXP and Volkswagen have closely collaborated for high-reliability and performance, as well as for standardization of V2X communication that addresses cybersecurity and privacy protection.

V2X in Europe

Wi-Fi based V2X is a mature technology that has been tested for more than 10 years. Presently,1000 km of European roads are equipped with V2X technology based on Wi-Fi with 5000 km planned through the end of 2019. Its research and development, testing and standardization has occurred within a strong global eco-system of suppliers and car



manufacturers to ensure reliability in diverse road and traffic conditions. Wi-Fi therefore forms the basis of the European standard that has been chosen for vehicle-to-vehicle and vehicle-to-infrastructure communication. An additional benefit is its availability independent of paid cellular services. Other developing cellular based technologies can be added complementary to Wi-Fi-based V2X .

V2X communication is set to become a critical part of advanced driving assistance systems and the migration to autonomous cars that communicate with each other and with traffic infrastructure. The unique benefit of Wi-Fi-based V2X is its robust, low latency, real-time communication – regardless of any car brands.

- It enables awareness and communication between cars, road infrastructure like traffic lights or street signs, and other road users such as cyclists and pedestrians.
- It is a technology that is collaborative, allowing it to "tap into" surrounding sensor data from mutually equipped cars to warn of hazards and prevent accidents.
- V2X is a technology that complements other ADAS sensing technologies such as radar, LiDAR and cameras.
- It helps vehicles to "see" more than a mile ahead and around corners to provide early warning of obstacles, hazards, and road conditions.
- It has the ability to "see" through objects, delivering more information than that obtained through line of sight only.
- Its sensing capabilities are unaffected by poor weather conditions.

NXP offers the only 5.9 GHz V2X system solution proven in volume production today.

Recent V2X Technology News

- CITS Deployment takes off
- About NXP RoadLINK V2X technology
- NXP V2X Whitepaper: WLANp ahead of LTE V2V for safety applications
- NXP Introduces RoadLINK® V2X Evaluation Kit 2.0
- NXP Launches World's First Scalable, Single-Chip Secure Vehicle-to-X Platform

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¹Based on Strategy Analytics Sensor Market Growth 2019

About NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ: NXPI) enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better, and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy, and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has approximately 30,000 employees in more than 30 countries and posted revenue of \$9.41 billion in 2018. Find out more at www.nxp.com.

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